BRUHAT BANGALORE MAHANAGARA PALIKE

PWD FORM - 45 (WORK SLIP)

Name of Work: Construction of Two Pure Drinking Water Units in Ward No. 07, Byatarayanapura.

Name of Agency: Sri R. Vasanth, Contractor, # 20, A T Layout, Nagashettahalli, RMV 2nd Stage, Bangalore - 94.

Estimated Cost: 25,00,000.00

Tender Amount : Rs. 22,60,457.52 Lakhs

Work Order No. BBMP/EE/BTP/WO/241/2016-17 Dated: 25.03.2017.

SL. No.	Description	Unit	Qty. as per Sanctioned Estimate			Qty. as per Tender			Actual executed Qty.	Qty. as per Actuals upto 125%			Qty. as per Actuals above 125%			Total Executed Amount	Savings	Excess	Remarks
			Qty.	Rate	Amount	Qty.	Rate	Amount		Qty.	Rate	Amount	Qty.	Rate 2016-17+ T.P	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	KSRB 2-1.1: Earth work in surface excavation in **ordinary soil** for leveling and lowering the ground manually (other than foundation of buildings, culverts, road drains and	Cum	7.24	156.88	1135.81	7.24	140.00	1013.60	4.20	4.20	140.00	588.00	0.00	0.00	0.00	588.00	425.60		
2	KSRB 2-2.2 : Earth work excavation for foundation of buildings, culverts water supply, sanitary line and electrical conduits either in pits or in trenches 1.5m	Cum	27.78	283.02	7862.30	27.78	260.00	7222.80	21.70	21.70	260.00	5644.00	0.00	0.00	0.00	5644.00	1578.80		
3	Providing and laying in position plain cement concrete of **mix 1:4:8 with OPC cement @ 180 kgs with 40mm** and down size graded granite metal coarse	Cum	7.92	4976.70	39415.46	7.92	4700.00	37224.00	8.53	8.53	4700.00	40072.00	0.00	0.00	0.00	40072.00		2848.00	
4	Providing and constructing granite / trap / basalt size stone masonry in **foundation with cement mortar 1:6**, stone hammerd dressed in courses not less than	Cum	16.10	4058.74	65345.71	16.10	3800.00	61180.00	12.06	12.06	3800.00	45828.00	0.00	0.00	0.00	45828.00	15352.00		
5	Providing and constructing granite / trap / basalt size stone masonry in **basement with cement mortar 1:6**, edges of stones chistle dressed in courses not less than	Cum	3.96	4814.52	19065.50	3.96	4500.00	17820.00	5.14	5.14	4500.00	23146.00	0.00	0.00	0.00	23146.00		5326.00	
6	Filling available excavated earth (excluding rock) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer	Cum	11.86	127.20	1508.59	11.86	110.00	1304.60	21.71	21.71	110.00	2388.00	0.00	0.00	0.00	2388.00		1083.40	
7	KSRB 4-1.6 : Providing and laying in position plain cement concrete of **mix 1:2:4 with cement @ 240 kgs with 20mm** and down size graded granite metal coarse	Cum	3.96	5389.04	21340.60	3.96	5100.00	20196.00	2.75	2.75	5100.00	14030.00	0.00	0.00	0.00	14030.00	6166.00		
8	Providing and constructing precast concrete solid blocks with compressive strength not les than 35 Kg/sqm with cement mortar 1:4 masonry (quoin, Jamb, closer	Sqm	70.88	999.58	70850.23	70.88	920.00	65209.60	0.00	0.00	920.00	0.00	0.00	0.00	0.00	0.00	65209.60		

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			Qty.	Rate	Amount	Qty.	Rate	Amount		Qty.	Rate	Amount	Qty.	Rate 2016-17+ T.P	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
9	KSRB 15.3.6: Providing 15m thick cement plaster in single coat with cement mortar 1:6 to brick masonry including rounding off corners wherever reuired smooth	Sqm	141.76	168.54	23892.23	141.76	140.00	19846.40	0.00	0.00	140.00	0.00	0.00	0.00	0.00	0.00	19846.40		
10	KSRB 7.8 : Providing and fixing in position in cement concrete 1:3:6 steel glazed windows and ventilators side hung/top hung 2/3 openable 1/3 fixed as per	Sqm	12.08	3209.68	38772.93	12.08	3100.00	37448.00	0.00	0.00	3100.00	0.00	0.00	0.00	0.00	0.00	37448.00		
11	Fabricating, supplying & erecting M.S. angular Truss of span upto 10m. The bottom & top member is provided with 50x50x6mm double equal angles, welded back to back	Kgs	263.50	128.26	33796.51	263.50	100.00	26350.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	26350.00		
12	Providing and fixing self-supported, ribbed, high quality, high grade (D:350 MPA Yst Min), pre- painted Galvalume steel roof sheet, coated with bare Galvalume	Sqm	27.46	2059.05	56541.51	27.46	1800.00	49428.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	0.00	49428.00		
13	KSRB 7.5 : Providing and fixing **pull and push type rolling shutters** of approved make out of 18 guage, 75mm wide cold rolled steel laths of convex corrugation,	Sqm	19.60	2838.68	55638.13	19.60	2500.00	49000.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.00	49000.00		
14	KSRB 7.6 : Providing and fixing top covers made out of 20 guage M.S. sheet over pull and push rolling shutters bent to shape including cost of red lead primer	m	6.00	558.62	3351.72	6.00	500.00	3000.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	3000.00		
15	Providing flooring with 60 cms.x 60 cms. size Vitrified glazed tiles of approved quality & make, fixed on top of existing flooring fixed with suitable adhesive, including cutting	Sqm	54.92	1087.56	59728.80	54.92	900.00	49428.00	16.64	16.64	900.00	14976.00	0.00	0.00	0.00	14976.00	34452.00		
16	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC	m	390.00	143.10	55809.00	390.00	120.00	46800.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	46800.00		
17	Providing and fixing gun metal wheel valve conforming to IS specification of approved make as per directions including all lead and lift etc., complete. - for 15mm	Each	12.00	312.70	3752.40	12.00	220.00	2640.00	0.00	0.00	220.00	0.00	0.00	0.00	0.00	0.00	2640.00		
18	KSRB 13-11.1 : Providing and placing on terrace, polyethylene water storage tanks with manhole lid and suitable locking arrangements, making holes of	Nos	8.00	8851.00	70808.00	8.00	8500.00	68000.00	0.00	0.00	8500.00	0.00	0.00	0.00	0.00	0.00	68000.00		

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			Qty.	Rate	Amount	Qty.	Rate	Amount		Qty.	Rate	Amount	Qty.	Rate 2016-17+ T.P	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
19	1HP / 7.5 KW Atlanta / Suguna / CRI / Kirloskar / other equivalent Pumps Page No. XXXXII, Item No.	Cum	2.00	13356.00	26712.00	2.00	12000.00	24000.00	0.00	0.00	12000.00	0.00	0.00	0.00	0.00	0.00	24000.00		
20	**Providing R.O. Plant**																		
	Providing revsrse osmosis suystem to cover 2000 Liters of High TDS water per hour																		
	TECHNICAL SPECIFICATIONS																		
	Flow Rate:																		
	Feed Water : 5000 LPH																		
	Treated Water : 3000 LPH																		
	Reject Water : 2000 LPH																		
	RAW WATER PUMP																		
	Purpose:- To feed the Dual Medial filter at pressure more than 2.00 bars which is min operating pressure for filter?																		
	SAND MEDIA FILTER																		
	Purpose:- To remove the total suspendred solids, dirt, iron and reduce silt density index which can foul the members																		
	ACTIVATE CARBON FILTER																		
	Purpose:- To remove the total color, smell, odor from the water.																		
	Media: Mixed bed sand media consisting of the following i) Gravel ii) Pebbles iii) carbon Average porosity 50 micron particulate size bed depth : 1500 mm pipelines &																		
	DOSING SYSTEM																		
	Purpose : To dose anti scaling chemical to protect the scaling formation on RO Membranes																		
	MICRON FILTER																		
	Purpose : To remove the fine particles ip to 05 microns and reduce silt density levels to acceptable level.																		
	HIGH PRESSURE PUMP																		
	Purpose : To feed the reverse Osmosis membrane at pressure more than the osmotic pressure taking into consideration flux rate, flow and recovery																		
	RO membrane housing.																		
	Purpose : To pack membrane and operate at high pressure.																		

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	RO MEMBRANES																		
	Purpose : To remove the major part of TDS into 98% by Reverse Osmosis Membranes arranged and designed to give adequate flow the Recovery.																		
	RO CLEANSING SYSTEM																		
	ELECTRICAL PANEL																		
	Purpose : A control panel is provided as a safety measure for the pumps & other electrical items.																		
	Specifications a) Complete starters, overload relays, b) Voltmeter, Ammeter, MCB's indicating lights, c) Rocker switches for Dozers, d) incomers, Auto-Manual switches.																		
	INSTRUMENTATION																		
	Purpose : a) Flow meter : To measure the online flow of water flowtec b) Low pressure switch : To protect RO pump from dry running c) High pressure switch :																		
	PH DOSING SYSTEM																		
	Purpose to dose sodium Bi-carbonate for enhances product water SS till the pre-filteration & SS from HPP to thhe premeter line termination point NRV's pressure	Nos	2.00	810000.00	1620000.00	2.00	780000.00	1560000.00	2.00	2.00	780000.00	1560000.00	0.00	0.00	0.00	1560000.00	0.00		
	ELECTRIFICATION																		
21	Supplying and wiring adopting loop system in existing PVC Conduit / casing capping using 1100V grade, COPPER conductor flexible multistrand FRLS PVC insulated, 2	Point	12.00	245.00	2940.00	12.00	220.00	2640.00	12.00	12.00	220.00	2640.00	0.00	0.00	0.00	2640.00	0.00		
22	c) Long point above 6Mtr upto 10Mtr from tapping point to out let via switch	Point	12.00	363.00	4356.00	12.00	320.00	3840.00	12.00	12.00	320.00	3840.00	0.00	0.00	0.00	3840.00	0.00		
23	Supplying and flush mounting teak wooden box without front plank, made of not less than 12mm thick wood, after due groove cutting, Finishing with necessary cement	Each	60.00	68.00	4080.00	60.00	50.00	3000.00	20.00	20.00	50.00	1000.00	0.00	0.00	0.00	1000.00	2000.00		
24	(1.6.1) 12"x12"x3" (300x300x76mm)	Each	36.00	116.00	4176.00	36.00	90.00	3240.00	15.00	15.00	90.00	1350.00	0.00	0.00	0.00	1350.00	1890.00		
25	(1.6.3)10"x7"x3" (254x178x76mm)	Each	30.00	87.00	2610.00	30.00	70.00	2100.00	18.00	18.00	70.00	1260.00	0.00	0.00	0.00	1260.00	840.00		

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			Qty.	Rate	Amount	Qty.	Rate	Amount		Qty.	Rate	Amount	Qty.	Rate 2016-17+ T.P	Amount				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
26	Supplying 4mm thick plastic sheet with necessary nitches for fixing switches, regulators etc., and fixing on existing wooden or metal box using N.F. screws etc.,	SqCM	26666.00	0.25	6666.50	26666.00	0.22	5866.52	26666.00	26666.00	0.22	5867.00	0.00	0.00	0.00	5867.00	-0.48		
27	Extra for Groove cutting in brick wall/CC floor to the suitable depth for concealing of Conduit/GI pipe and plastering, finishing upto wall surface complete. upto 50mm	Mtr	60.00	21.00	1260.00	60.00	20.00	1200.00	60.00	60.00	20.00	1200.00	0.00	0.00	0.00	1200.00	0.00		
28	Supplying heavy gauge PVC Conduit Pipe 19/20 mm dia 2 mm thick with suitable size bends, metal junction boxes adhesive paste etc., by groove cutting in the	Mtr	50.00	56.00	2800.00	50.00	40.00	2000.00	50.00	50.00	40.00	2000.00	0.00	0.00	0.00	2000.00	0.00		
29	Supplying and fixing PBBC/Bakelite straight or slant batten holder and wiring with 60w/230 volts lamps etc., complete and as per the directions	Each	8.00	88.00	704.00	8.00	70.00	560.00	2.00	2.00	70.00	140.00	0.00	0.00	0.00	140.00	420.00		
30	Supplying patti type fluorescent tube light fitting of 2' - suitable for 14 watts fluorescent tube fitting, made out of M.S. Sheet and stove enameled with HF Electronic	Each	8.00	591.00	4728.00	8.00	520.00	4160.00	4.00	2.00	520.00	2080.00	0.00	0.00	0.00	2080.00	2080.00		
31	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance	Mtr	30.00	18.60	558.00	30.00	10.00	300.00	30.00	30.00	10.00	300.00	0.00	0.00	0.00	300.00	0.00		
32	Supplying and fixing cast Aluminum round or oblong type bulk head fitting with GI wire guard, glass cover with 60/100	Each	16.00	747.00	11952.00	16.00	550.00	8800.00	2.00	2.00	550.00	1100.00	0.00	0.00	0.00	1100.00	7700.00		
33	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm	No	2.00	2727.00	5454.00	2.00	2500.00	5000.00	2.00	2.00	2500.00	5000.00	0.00	0.00	0.00	5000.00	0.00		
34	Supplying of 1.1 KV LT UG cable having aluminum conductor PVC insulated, extruded inner sheathed, galvanized, steel strip	Mtr	80.00	140.40	11232.00	80.00	100.00	8000.00	40.00	40.00	100.00	4000.00	0.00	0.00	0.00	4000.00	4000.00		
35	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.In	Mtr	80.00	10.80	864.00	80.00	10.00	800.00	40.00	40.00	10.00	400.00	0.00	0.00	0.00	400.00	400.00		
36	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As	Mtr	80.00	85.00	6800.00	80.00	70.00	5600.00	30.00	30.00	70.00	2100.00	0.00	0.00	0.00	2100.00	3500.00		

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			Qty.	Rate	Amount	Qty.	Rate	Amount		Qty.	Rate	Amount	Qty.	Rate 2016-17+ T.P	Amount				
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*
37	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with	Mtr	8.00	345.00	2760.00	8.00	310.00	2480.00	8.00	8.00	310.00	2480.00	0.00	0.00	0.00	2480.00	0.00		
38	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound	No.	2.00	280.00	560.00	2.00	240.00	480.00	2.00	2.00	240.00	480.00	0.00	0.00	0.00	480.00	0.00		
39	Polythylene water storage tank of specified capacity and make	L	4000.00	6.20	24800.00	4000.00	5.00	20000.00	2000.00	2000.00	5.00	10000.00	0.00	0.00	0.00	10000.00	10000.00		
40	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold	m	320.00	145.80	46656.00	320.00	104.00	33280.00	50.00	50.00	104.00	5200.00	0.00	0.00	0.00	5200.00	28080.00		
	Total															**1759109.00**		**9257.40**	
								EIRL											
41	Providing and Construction of pup panel cabin MS material vetical 50 x 100 mm thick tube, rafter 50 x 100 mm thick rectangle tube 50 x	Each							2.00				2.00	250204.80	500410.00	500410.00		500410.00	
	Sub Total				2421283.94											**500410.00**			
	T P Inspection Charges @ 1%				24212.84														
	BESCOM Deposit for RO Plant				20000.00														
	Miscelaneous charges	LS			34503.00														
	Total				**2500000.00**			**2260457.52**				**1759109.00**			**500410.00**	**2259519.00**	**510605.92**	**509667.40**	

0.04 Below

SUMMARY:

1 **Estimated Cost : Rs. 25.00 Lakhs**

2 **Tender Cost : Rs. 22.60 Lakhs**

3 **During execution as per requirement and site condition, the total Qty to be executed costs Rs. 22.59 Lakhs which is 0.04% BELOW the Tender cost. The proposal may kindly be approved.**

Assistant Engineer

Assistant Executive Engineer
Bruhat Bangalore Mahanagara Palike
Kodigehalli Sub Division

Executive Engineer
Bruhat Bangalore Mahanagara Palike
Byatarayanapura Division, Bangalore - 92

"Comparitive Statement Approved"

Chief Engineer
Yelahanka Zone
Bruhat Bangalore Mahanagara
Bangalore-92